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10/528,123	06/15/2007	Yasutaka Nakata	040347	8945
23850 7590 05/13/2009 KRATZ, QUINTOS & HANSON, LLP 1420 K Street, N.W. Suite 400 WASHINGTON, DC 20005				
EXAMINER				
KOAGEL, JONATHAN BRYAN				
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3744				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/528,123

**Applicant(s)**

NAKATA, YASUTAKA

**Examiner**

JONATHAN KOAGEL

**Art Unit**

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 June 2007.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-23 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 15 June 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because the legal phraseology "comprising" and "means" in lines 6, 8, 11 and 12 are used. Also, the abstract is more than one paragraph. Correction is required. See MPEP § 608.01(b).

### *Claim Objections*

Claims 1-23 are objected to because of the following informalities:

- The recitation "one or a plurality of storages" (claim 1, line 1) should be changed to --**at least one storage**-- for clarity and the recitation "cooling means for cooling the storages" (claim 1, line 2) should be changed to --cooling means for cooling the **at least one storage**-- for clarity. Similarly, the recitation "containers installed inside the storages" (claim 1, line 3)

should be changed to --containers installed inside the **at least one storage**-- for clarity.

- The recitation of "hermetically sealed container" (claim 4, lines 3-4) should be changed to --hermetically sealed containers-- for clarity.
- The recitation of "an operating device for operating connections" (claim 6, line 11) should be changed to --an operating device for operating **the connection ends**-- for clarity. As stated in line 9, the connection ends connect the hermetically sealed containers with the exhaust ducts. The recitation of "the exhaust duct" (lines 9-10) should be changed to --the exhaust **ducts**-- for clarity.
- The recitation of "the operating means opens the connection" (claim 8 line 3) should be changed to --the operating means opens the connection ends-- for clarity.
- The recitation of "one or a plurality of storages" (claim 1, line 1) should be changed to --at least one storage-- for clarity and the recitation "cooling means for cooling the storages" (claim 11 line 2) should be changed to --cooling means for cooling the at least one storage-- for clarity.

- The recitation "waits until the temperature inside the storage" (claim 13 line 2) should be changed to --waits until the temperature inside the at least one storage-- for clarity.
- The recitation "for detecting the open-close of the storage door is installed to the storage" (claim 14 line 2) should be changed to --for detecting the open-close of the at least one storage is installed to the at least one storage-- for proper antecedent basis and clarity.
- The recitation line 3 "sealing of the storage containers" (claim 17 line 3) and "exhaust of the storage containers" (claim 17 line 4) should be changed to --sealing of the storage container-- and --exhaust of the storage container-- for proper antecedent basis and clarity. The recitation "an exhaust means for individually discharging exhaust" (claim 17 line 4) should be changed to --an exhaust means for discharging exhaust-- for clarity.
- The recitation "store preserves in the warehouse" (claim 20 line 2) should be changed to --store preserves in the freezer compartment-- for proper antecedent basis and clarity and the recitation "an exhaust means for individually discharging exhaust" (claim 20 line 4) should be changed to --

an exhaust means for discharging exhaust-- for clarity. There is only one storage container and the exhaust means is only discharging one exhaust. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 2, 3, 11-14, 17-18, 20-21 are rejected under 35 U.S.C. 102(a) as being anticipated by Hattori et al. KR Publication No. 10-2004-0002483.

Regarding claim 1, Hattori teaches in figs. 1, 3, 7, a refrigerator freezer which has one storage and a cooling means for cooling the storage comprising, hermetically sealed containers 19, 39 installed inside the storage to store foods to be refrigerated/frozen, an exhaust means 30 for individually discharging exhaust of the hermetically sealed containers 19, 39 and a switching means (not shown pg. 8 paragraph 2) for turning on and off the exhaust means 30 (pg. 5 paragraphs 3-7, pg. 7 paragraph 4, pg. 8 paragraph 2). Hattori et al. teach a vacuum pump connected to exhaust air from the interior of container 39. Therefore, the container 39 inherently must be hermetically sealed.

Regarding claim 2, Hattori teaches in fig. 3, a vacuum breaking means 20, 28 and 40 for breaking the vacuum condition after discharging exhaust by the exhaust means 30 for the hermetically sealed containers 19, 39. A pulling force on arm 28 via door 20 will break the vacuum within the container 19. Also the solenoid 40 can exert a retracting force with springs 46 on container 39 to break the vacuum.

Regarding claim 3, Hattori teaches in fig. 7 wherein an open close detection means (not shown pg. 8 paragraph 2) for detecting open close of a container door section 45 is provided to the hermetically sealed container 39 (pg. 8 paragraph 2).

Regarding claim 11, Hattori teaches in figs. 1, 3, a refrigerator freezer which has a plurality of storages 19, 39 and a cooling means 11, 12 for cooling the storages 19, 39, which is formed into a hermetically sealed construction (through seal 27) comprising an exhaust means 30 for discharging exhaust of the storages 19, 39 of the hermetically sealed construction (pg. 6 paragraph 4). Hattori et al. teach a vacuum pump connected to exhaust air from the interior of container 39. Therefore, the container 39 inherently must be hermetically sealed.

Regarding claim 12, Hattori teaches in figs. 1 and 3, 4, a vacuum breaking means 20, 28 and 40, 46 for breaking the vacuum condition after the exhaust means 30 discharges exhaust is equipped to the storages 19, 39 (pg. 5 paragraph 9, pg. 8 paragraph 2).

Regarding claim 13, Hattori teaches in figs. 1, 7, wherein the exhaust means 30 waits until the temperature inside the storages 19, 39 lowers to the specified temperature and carries out the exhaust operation (pg. 8 paragraph 2).

Regarding claim 14, Hattori teaches in figs. 1, 3, 7, wherein an open close detection means (not shown pg. 8 paragraph 2) for detecting the open close of the storage door 45 is installed to the storage 39 (pg. 8 paragraph 2).

Regarding claim 17, Hattori teaches in figs. 1, 3, a storage container 19 used for storing reserves in a cold storage 9 comprising, a hermetically sealing means 27 for hermetically sealing the storage container 19, an exhaust means 30 for discharging exhaust of the storage container 19 and a switching means (not shown pg. 8 paragraph 2) for turning on and off the exhaust means 30 (pg. 5 paragraph 7, pg. 6 paragraph 3, pg. 8 paragraph 2).

Regarding claim 18, Hattori teaches in figs. 1, 3, a vacuum breaking means 20, 28 for breaking the vacuum condition after exhaust is discharged by the exhaust means 30 is equipped to the storage container 19. A pulling force on arm 28 via door 20 will break the vacuum within the container 19.

Regarding claim 20, Hattori teaches in figs. 1, 3, a cold storage 9 which has a freezer compartment 19 that can refrigerate and store preserves in the compartment



comprising, a hermetically sealing means 27 for hermetically sealing the freezer compartment 19, an exhaust means 30 for discharging exhaust of the freezer compartment 19 and a switching means (not shown pg. 8 paragraph 2) for turning on and off the exhaust means 30 (pg. 6 paragraphs 1-3, pg. 8 paragraph 2).

Regarding claim 21, Hattori teaches in figs. 1, 3, a vacuum breaking means 20, 28 for breaking the vacuum condition after exhaust is discharged by the exhaust means 30 is equipped to the freezer compartment 19. A pulling force on arm 28 via door 20 can break the vacuum within the container 19.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 15 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Hattori et al.

Regarding claim 4, Hattori teaches in figs 1, 3, 7, a temperature detection means (not shown, pg. 8 paragraph 2) for detecting temperature inside the hermetically sealed containers wherein the exhaust means 30 discharges exhaust after the temperature detection means detects that the temperature inside the hermetically sealed containers

19, 39 lowers to the specified value (pg. 8 paragraph 2). Hattori disclosed cooling food to a prescribed temperature and therefore a temperature sensor is present in container 39. Hattori fails to explicitly teach a temperature detection means for both containers. It would have been obvious to a person of ordinary skill in the art at the time of invention to use a second temperature detection means in order to individually control the vacuum pump individually according to the needs of each container. This allows for more control between the two containers, resulting in the ability to store different foods at different temperatures within both containers. This allows for a more versatile storage container.

Regarding claim 15, Hattori teaches in fig. 1, wherein the cooling means 11, 12 has a plurality of heat exchangers (pg. 5 paragraphs 1-2). Hattori fails to explicitly teach the heat exchangers are inside the storages. It would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the heat exchangers inside the storages, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70. By locating the heat exchangers within the storages, heat transfer can occur directly between the items being cooled and the heat exchanger, allowing for a decreased amount of time to cool the items to a predetermined temperature. This prevents the refrigeration components from running excessively, reducing the operating cost of the refrigerator.

Claims 5, 16, 19 and 22 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Hattori et al. as applied to claim 1 above and further in view of

Anderson et al. US Publication No. 2005/00225549 A1 and Sakuma JP Patent No. 411033127A.

Regarding claim 5, Hattori teaches the invention as disclosed above but fails to explicitly teach a bio-ceramic element for generating negative ions located in the hermetically sealed container.

However, Anderson teaches an equivalent technique of keeping food fresh by using baking soda to eliminate odors caused by stored food which allows food to stay fresher (pg. 1 paragraph 7). Sakuma, on the other hand, teaches the use of tourmaline to generate negative ions which, in turn, allows a vitalization to occur to a living organism that is located near the tourmaline (Abstract). Stated another way, the tourmaline use increases the amount of time that food will remain fresh.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teaching of Hattori with those of Anderson and Sakuma to include the use of tourmaline that can be used in the hermetically sealed container in order to generate energy for vitalizing organic functions (Sakuma Abstract) and keeping food fresh for a longer period of time.

Regarding claim 16, Hattori teaches the invention as disclosed above but fails to explicitly teach a bio-ceramic element for generating negative ions located inside the storage.

However, Anderson teaches an equivalent technique of keeping food fresh by using baking soda to eliminate odors caused by stored food which allows food to stay

fresher (pg. 1 paragraph 7). Sakuma, on the other hand, teaches the use of tourmaline to generate negative ions which, in turn, allows a vitalization to occur to a living organism that is located near the tourmaline (Abstract). Stated another way, the tourmaline use increases the amount of time that food will remain fresh.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teaching of Hattori with those of Anderson and Sakuma to include the use of tourmaline that can be used in the hermetically sealed container in order to generate energy for vitalizing organic functions (Sakuma Abstract) and keeping food fresh for a longer period of time.

Regarding claim 19, Hattori teaches the invention as disclosed above but fails to explicitly teach a bio-ceramic element for generating negative ions located inside the storage containers.

However, Anderson teaches an equivalent technique of keeping food fresh by using baking soda to eliminate odors caused by stored food which allows to food to stay fresher (pg. 1 paragraph 7). Sakuma, on the other hand, teaches the use of tourmaline to generate negative ions which, in turn, allows a vitalization to occur to a living organism that is located near the tourmaline (Abstract). Stated another way, the tourmaline use increases the amount of time that food will remain fresh.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teaching of Hattori with those of Anderson and Sakuma to include the use of tourmaline that can be used in the hermetically sealed

container in order to generate energy for vitalizing organic functions (Sakuma Abstract) and keeping food fresh for a longer period of time.

Regarding claim 22, Hattori teaches the invention as disclosed above but fails to explicitly teach a bio-ceramic element for generating negative ions located inside the freezer compartment.

However, Anderson teaches an equivalent technique of keeping food fresh by using baking soda to eliminate odors caused by stored food which allows to food to stay fresher (pg. 1 paragraph 7). Sakuma, on the other hand, teaches the use of tourmaline to generate negative ions which, in turn, allows a vitalization to occur to a living organism that is located near the tourmaline (Abstract). Stated another way, the tourmaline use increases the amount of time that food will remain fresh.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teaching of Hattori with those of Anderson and Sakuma to include the use of tourmaline that can be used in the hermetically sealed container in order to generate energy for vitalizing organic functions (Sakuma Abstract) and keeping food fresh for a longer period of time.

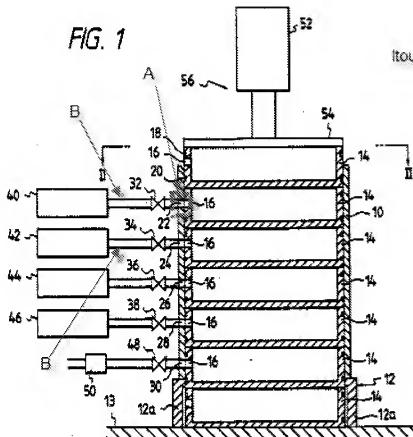
Claims 6-9 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Hattori et al. and further in view of Itou US Patent No. 5,088,293.

Regarding claim 6, Hattori teaches in figs. 1, 3, 7, a refrigerator freezer which has a plurality of storages 5, 9 and a cooling means 11,12 for cooling the storages

comprising, hermetically sealed (via seal 27) containers 19, 39 (container 39 has a vacuum pump connected to it so the container 39 is inherently hermetically sealed) installed inside the storages 5, 9 to store foods to be refrigerated and frozen (pg. 5 paragraphs 1-3, 7, pg. 8 paragraph 2). Hattori fails to explicitly teach connection ends, exhaust ducts connected by the connection ends, a common exhaust means or an operating device for operating the connection ends.

However, Itou teaches in fig. 1, connection ends A (See annotated figure below) mounted to storages 10, exhaust ducts B (See annotated figure below) that can be connected to hermetically containers 14 by the connection ends A, an exhaust means 40, 42, 44, 46 capable of discharging exhaust of the hermetically sealed containers 14 connected to the exhaust ducts B via the connection ends A by discharging exhaust inside the exhaust ducts B and an operating device 32, 34, 36, 38, 48 capable of operating connection ends A between the hermetically sealed containers 14 and the exhaust ducts B (column 2 lines 3-45).

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Hattori with the teachings of Itou to include connection ends, ducts operating means and to use one common exhaust means instead of several, in order to allow for the food inside the containers to cool more quickly by removing air and to keep the food inside the containers sanitary (Itou column 1 lines 10-23). The use of one common exhaust means would allow for a reduced number of parts within the system, thus reducing the cost of the system.



Regarding claim 7, Hattori teaches the invention as disclosed above and Itou further teaches in fig. 1 wherein the operating means 32, 34, 36, 38, 48 are capable of not opening the connection ends A between the hermetically sealed containers 14 and the exhaust ducts B when the hermetically sealed containers 14 are not connected to the connection ends A of the exhaust ducts B. Valves 32, 34, 36, 38, 48 are capable of being closed either electronically or manually if the situation arises where the containers

are not connected to the connection ends of the ducts. This will prevent the vacuum pump from running excessively and not removing the air from the sealed containers.

Regarding claim 8, Hattori teaches the invention as disclosed above and further teaches a temperature detection means (not shown pg. 8 paragraph 2, a food is cooled to a prescribed temperature and therefore a temperature detection means is present) capable of detecting the temperature inside the hermetically sealed container 19, 39 and running the vacuum pump after detecting that the temperature inside the hermetically sealed containers 19, 39 lowers to the specific value (pg. 8 paragraph 2).

Itou further teaches in fig. 1, wherein the operating means 32, 34, 36, 38, 48 is capable of opening the connection between the hermetically sealed containers 14 and the exhaust duct B.

It would have been obvious to a person of ordinary skill in the art at the time of invention to open the connection means between the sealed containers and the exhaust duct after detecting the temperature inside the sealed containers lowers to the specified value in order to prevent the food stored in the containers from spoiling if the appropriate temperature is not reached within the container. This results in a prevention of spending excess money on food. If the correct temperature is reached before the vacuum pump is operated, a stored food will remain fresher longer because an appropriate cold temperature was reached and the air was removed.

Regarding claim 9, Hattori as modified above teaches the invention as disclosed and further teaches in figs. 1, 3, 7, wherein a vacuum breaking means 20, 28 and 40, 46



is capable of breaking the vacuum condition after exhaust by the exhaust means 30, is mounted to the hermetically sealed containers 19, 39. A pulling force on arm 28 via door 20 can break the vacuum within the container 19. Also the solenoid 40 can exert a retracting force with springs 46 on container 39 to break the vacuum.

Claim 10 is rejected under 35 U.S.C. 103 (a) as being unpatentable over Hattori et al. and Itou as applied to claim 6 above and further in view of Anderson and Sakuma.

Regarding claim 10, Hattori as modified teaches the invention as disclosed above but fails to explicitly teach a bio-ceramic element for generating negative ions located in the hermetically sealed containers.

However, Anderson teaches an equivalent technique of keeping food fresh by using baking soda to eliminate odors caused by stored food which allows to food to stay fresher (pg. 1 paragraph 7). Sakuma, on the other hand, teaches the use of tourmaline to generate negative ions which, in turn, allows a vitalization to occur to a living organism that is located near the tourmaline (Abstract). Stated another way, the tourmaline use increases the amount of time that food will remain fresh.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to modify the teaching of Hattori with those of Anderson and Sakuma to include the use of tourmaline that can be used in the hermetically sealed container in order to generate energy for vitalizing organic functions (Sakuma Abstract) and keeping food fresh for a longer period of time.

Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori as applied to claim 20 above, and further in view of Stempfle et al. US Publication No. 2004/0261430 A1.

Regarding claim 23, Hattori teaches the invention as disclosed above but fails to explicitly teach a temperature sensor for detecting the existence of humans or living organisms by temperature is mounted inside the freezer compartment.

However, Stempfle teaches in fig. 2, a temperature sensor 8 capable of detecting the existence of humans or living organisms by temperature is mounted inside of a freezer compartment 7 (pg. 1 paragraph 15).

It would have been obvious to a person of ordinary skill in the art at the time of invention to modify Hattori with the teachings of Stempfle to include a temperature sensor in the freezer compartment in order to monitor and regulate the temperature within the freezer compartment. This results in a freezer compartment that can be accurately controlled in order to store food at an appropriate freezing temperature.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN KOAGEL whose telephone number is (571)270-7396. The examiner can normally be reached on Monday through Friday 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frantz Jules can be reached on (571)272-6681 or Cheryl Tyler (571)272-

4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. K./  
Examiner, Art Unit 3744  
07 May 2009

/Cheryl J. Tyler/  
Supervisory Patent Examiner, Art  
Unit 3744